

CLAIMS:

1. An active matrix display comprising
a select driver (SD) for driving select electrodes (SE),
a data driver (DD) for supplying data (D) to data electrodes (DE),
a power supply (PS) for supplying a power supply voltage (VB),
5 at least one power supply electrode (PE) for supplying the power supply
voltage (VB) to pixel driving circuits (PD) of at least one line of pixels (10) extending in a
same direction as the select electrodes (SE) and/or in a same direction as the data electrodes
(DE),
the pixels (10) being associated with intersections of the data electrodes (DE)
10 and the select electrodes (SE), the pixels (10) comprising a light emitting element (L), and a
pixel driving circuit (PD) for receiving the power supply voltage (VB) via the at least one
power supply electrode (PE) and data (D) via the data electrodes (DE) to control a brightness
of the light emitting element (L),
means (LD) for determining a load (AL; MA; IL) on the at least one power
15 supply electrode (PE), and
means (CO) for controlling a level of the power supply voltage (VB)
depending on the load (AL; MA; IL) determined.
2. An active matrix display as claimed in claim 1, wherein the means (CO) for
20 controlling the level of the power supply voltage (VB) are arranged for increasing the level of
the power supply voltage (VB) if a level of the load (AL; MA; IL) increases.
3. An active matrix display as claimed in claim 1, wherein the load (AL; MA; IL)
is an image load indicating a ratio of the summed grey level of the pixels (10) associated with
25 the at least one line of pixels (10) generating light and the maximum grey level of one of the
pixels (10) multiplied by a total number of the pixels (10) associated with the at least one line
of pixels (10).

4. An active matrix display as claimed in claim 1, wherein the at least one power supply electrode (PE) comprises a plurality of power supply electrodes (PE) extending in the direction of the data electrodes (DE), the power supply voltage (VB) being supplied to all power supply electrodes (PE), and the means (LD) for determining the load (AL; MA; IL)
5 comprises

means (LL) for determining actual loads (AL), one for each one of the power supply electrodes (PE), and

means (DMV) for determining the highest one of the actual loads (MA), and wherein the means (CO) for controlling is arranged for controlling the power supply voltage
10 (VB) to a level accommodating the highest one of the actual loads (MA).

5. An active matrix display as claimed in claim 1, wherein the at least one power supply electrode (PE) comprises a plurality of power supply electrodes (PE) extending in the direction of the select electrodes (SE), the power supply voltage (VB) being supplied to all
15 power supply electrodes (PE), and the means (LD) for determining the load comprises

means (LL) for determining actual loads (AL), one for each one of the power supply electrodes (PE), and

means (DMV) for determining the highest one of the actual loads (MA), and wherein the means (CO) for controlling is arranged for controlling the power
20 supply voltage (VB) to a level accommodating the highest one of the actual loads (MA).

6. An active matrix display as claimed in claim 1, wherein the power supply (PS) is arranged for supplying a plurality of power supply voltages (VB1, VB2, VB3) to an associated plurality of groups of the at least one power supply electrode (PE1, PE2, PE3), the
25 means for determining (LD) the load (AL) comprises means (LL) for determining the load (AL1, AL2, AL3) on each one of the plurality groups of the at least one power supply electrode (PE1, PE2, PE3), and the means (CO) for controlling being arranged for controlling a level of each one of the power supply voltages (VB1, VB2, VB3) in dependence on the associated load (AL1, AL2, AL3).

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7. An active matrix display as claimed in claim 6, wherein the pixels having a same subpixel color are gathered in an associated one of the plurality of groups.

8. An active matrix display as claimed in claim 6, wherein the means for determining (LD) the load (AL) comprises
means (LL) for determining, for at least one of the groups (PE1, PE2, PE3), actual loads (AL1, AL2, AL3), one on each one of the power supply electrodes (PE) of said
5 at least one of the groups (PE1, PE2, PE3),
means (DMV) for determining the highest one of the actual loads (MA1, MA2, MA3) determined within the at least one of the groups (PE1, PE2, PE3), and
wherein the means for controlling (CO) is arranged for controlling the power supply voltage (VB1, VB2, VB3) associated with said at least one of the groups (PE1, PE2,
10 PE3) to a level accommodating the highest one of the actual loads (MA1, MA2, MA3) determined within said at least one of the groups (PE1, PE2, PE3).
9. An active matrix display as claimed in any one of the claims 1 to 8, wherein the means (LD) for determining the load (LA) comprises means (CIL) for determining an
15 average image load (IL) being determined by all the pixels (10) of the active matrix display, and wherein the means (CO) for controlling is arranged for controlling the level of the power supply voltage (VB, VB1, VB2, VB3) depending on the first mentioned load (LA; LA1, LA2, LA3) and on the average image load (IL).
- 20 10. An active matrix display as claimed in claim 9, wherein the means (CO) for controlling is arranged for increasing the level of the power supply voltage (VB, VB1, VB2, VB3) when the average image load (IL) decreases.
11. An active matrix display as claimed in claim 1, wherein the at least one power
25 supply electrode (PE) comprises a plurality of power supply electrodes extending both in the direction of the select electrodes (SE) and in the direction of the data electrodes (DE) for forming a conductive grid.
12. An active matrix display as claimed in claim 11, wherein the means (LD) for
30 determining the load (AL) comprises means (CIL) for determining an average image load (IL) determined by all the pixels (10) of the active matrix display, and wherein the means (CO) for controlling are arranged for controlling the level of the power supply voltage (VB) depending on the average image load (IL).

13. A controller for an active matrix display comprising
a select driver (SD) for driving select electrodes (SE),
a data driver (DD) for supplying data (D) to data electrodes (DE),
at least one power supply electrode (PE) being arranged for supplying a power
5 supply voltage (VB) to pixel driving circuits (PD) of at least one line of pixels (10) extending
in a same direction as the select electrodes (SE) or in a same direction as the data electrodes
(DE),
the pixels (10) being associated with intersections of the data electrodes (DE)
and the select electrodes (SE), and comprising a light emitting element (L) and a pixel
10 driving circuit (PD) for receiving the power supply voltage (VB) via the at least one power
supply electrode (PE), and data (D) via the data electrodes (DE) to control a brightness of the
light emitting element (L),
means (LD) for determining a load (AL; MA; IL) on the at least one power
supply electrode (PE), and
15 means (CO) for controlling a level of the power supply voltage (VB)
depending on the load (AL; MA; IL) determined.
14. A method of controlling an active matrix display comprising
a select driver (SD) for driving select electrodes (SE),
20 a data driver (DD) for supplying data (D) to data electrodes (DE),
a power supply (PS) for supplying a power supply voltage (VB),
at least one power supply electrode (PE) being arranged for supplying the
power supply voltage (VB) to pixel driving circuits (PD) of at least one line of pixels (10)
extending in a same direction as the select electrodes (SE) or in a same direction as the data
25 electrodes (DE),
the pixels (10) being associated with intersections of the data electrodes (DE)
and the select electrodes (SE), and comprising a light emitting element (L) and a pixel
driving circuit (PD) for receiving the power supply voltage (VB) via the at least one power
supply electrode (PE), and data (D) via the data electrodes (DE) to control a brightness of the
30 light emitting element (L),
determining (LD) a load (AL; MA; IL) on the at least one power supply
electrode (PE), and
controlling (CO) a level of the power supply voltage (VB) depending on the
load (AL; MA; IL) determined.